

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1 (original): A eukaryotic cell that comprises a prokaryotic recombinase polypeptide or a nucleic acid that encodes a prokaryotic recombinase, wherein the recombinase can mediate site-specific recombination between a first recombination site and a second recombination site that can serve as a substrate for recombination with the first recombination site, but in the absence of an additional factor that is not present in the eukaryotic cell cannot mediate recombination between two hybrid recombinase recombination sites that are formed upon recombination between the first recombination site and the second recombination site.

Claim 2 (original): The eukaryotic cell of claim 1, wherein the recombinase is selected from the group consisting of a bacteriophage Φ C31 integrase, a coliphage P4 recombinase, a Listeria phage recombinase, a bacteriophage R4 Sre recombinase, a CisA recombinase, an XisF recombinase, and a transposon Tn4451 TnpX recombinase.

Claim 3 (original): The eukaryotic cell of claim 1, wherein the recombinase is a bacteriophage Φ C31 integrase

Claim 4 (original): The eukaryotic cell of claim 1, wherein the first recombination site is an *attB* site and the second recombination site is an *attP* site.

Claim 5 (original): The eukaryotic cell of claim 1, wherein the cell further comprises a first recombinase recombination site.

Claim 6 (original): The eukaryotic cell of claim 1, wherein the cell comprises a nucleic acid that comprises a coding sequence for an recombinase polypeptide, which coding sequence is operably linked to a promoter that mediates expression of the recombinase-encoding polynucleotide in the eukaryotic cell.

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Appl. No. To be Assigned
Amdt. dated November 24, 2003
Preliminary Amendment

PATENT

Claim 7 (original): The eukaryotic cell of claim 6, wherein the nucleic acid further comprises a selectable marker.

Claim 8 (original): The eukaryotic cell of claim 6, wherein the promoter is an inducible or a repressible promoter.

Claim 9 (original): The eukaryotic cell of claim 8, wherein the nucleic acid is the plasmid pLT43.

Claim 10 (original): The eukaryotic cell of claim 1, wherein the eukaryotic cell is selected from the group consisting of an animal cell, a plant cell, a yeast cell, an insect cell and a fungal cell.

Claim 11 (original): The eukaryotic cell of claim 10, wherein the eukaryotic cell is a mammalian cell.

Claim 12 (original): The eukaryotic cell of claim 10, wherein the eukaryotic cell is present in a multicellular organism.

Claims 13 -31 (canceled).

Claim 32 (original): A nucleic acid that comprises a polynucleotide sequence that encodes a bacterial recombinase polypeptide operably linked to a promoter that functions in a eukaryotic cell, wherein the recombinase polypeptide cannot mediate recombination between two hybrid recombination sites that are formed upon recombination between a first recombination site and a second recombination site in the absence of an additional factor.

Claim 33 (original): The nucleic acid of claim 32, wherein the nucleic acid further comprises at least one recombination site that is recognized by the recombinase polypeptide.

Claim 34 (original): The nucleic acid of claim 32, wherein the nucleic acid comprises a plasmid vector.

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Appl. No. To be Assigned
Amdt. dated November 24, 2003
Preliminary Amendment

PATENT

Claim 35 (original): The nucleic acid of claim 34, wherein the vector is pLT43.

Claim 36 (original): A eukaryotic cell that comprises a polynucleotide that comprises a first bacteriophage Φ C31 recombination site.

Claim 37 (original): The eukaryotic cell of claim 36, wherein the recombination site is selected from the group consisting of *attP* and *attB*.

Claim 38 (original): The eukaryotic cell of claim 36, wherein the eukaryotic cell further comprises a second polynucleotide that comprises a second Φ C31 recombination site that undergoes recombination with the first Φ C31 recombination site when contacted with a Φ C31 integrase polypeptide.

Claim 39 (original): The eukaryotic cell of claim 38, wherein:
the first recombination site is *attB* and the second recombination site is *attP*; or
the first recombination site is *attP* and the second recombination site is *attB*.

Claim 40 (original): The eukaryotic cell of claim 38, wherein the second polynucleotide further comprises a transgene.

Claim 41 (original): The eukaryotic cell of claim 38, wherein the second polynucleotide further comprises a selectable marker.

Claim 42 (original): The eukaryotic cell of claim 36, wherein the eukaryotic cell further comprises a Φ C31 integrase polypeptide

Claim 43 (original): The eukaryotic cell of claim 36, wherein the eukaryotic cell further comprises a nucleic acid that comprises a polynucleotide that encodes a Φ C31 integrase polypeptide.

Claim 44 (original): The eukaryotic cell of claim 43, wherein the nucleic acid further comprises a selectable marker.

SRNT

Appl. No. To be Assigned
Amdt. dated November 24, 2003
Preliminary Amendment

PATENT

Claim 45 (original): The eukaryotic cell of claim 43, wherein the nucleic acid further comprises a promoter which results in expression of the Φ C31 integrase-encoding polynucleotide in the cell.

Claim 46 (original): The eukaryotic cell of claim 45, wherein the promoter is an inducible promoter.

Claim 47 (original): The eukaryotic cell of claim 36, wherein the eukaryotic cell is selected from the group consisting of a yeast cell, a fungal cell, a plant cell, and an animal cell.